REMARKS/ARGUMENTS

Claims 1-12, rejected over Bossarte et al. U.S. Patent 6,490,977 ("Bossarte") have been canceled and new claims 13-21, which define a blasting arrangement, are submitted herewith.

New claim 13 combined canceled claims 11 and 12 with some additional subject matter and claims 14-19 largely correspond to canceled claims 2-7. Claims 20 and 21 define additional specifics of construction.

The new claims are believed to patentably distinguish over Bossarte.

In Bossarte the interface module is connected via the distribution panel 22 (see Figure 2) to the igniters. It is envisaged that the panel 22 can be combined with the interface module 20 in a single package. It is also envisaged that the Bossarte invention can be used in the field of explosive demolition.

Referring for example to Figure 5 of Bossarte and the description thereof at paragraphs [0048] through [0050], it is evident that to a substantial extent the interface module 20 (Figure 2), despite the presence of the control panel 11 (Figure 2), functions to control the blasting operation. Communication to the igniters is effected via the interace module; continuity tests (paragraph [0043]) are done through the interface module, and status data from the igniters are fed to the interface module. These aspects are set forth in paragraphs [0049] and [0050] of Bossarte.

The Bossarte control panel 11 appears to be used primarily to control the ignition of the pyrotechnic shells in synchronism with the cues displayed on the panel.

In contrast, in the blasting arrangement of the present invention as now claimed, the control function is primarily achieved via the blast control unit. For this reason, the detonators are connected to the blast control unit. The blast key is removable from the blast control unit as a safety feature. In Bossarte, the interface module is used in a different sense in that it makes up part of the whole control system. It is not envisaged in Bossarte that the interface module can fulfill the function of a removable key. For example, it would be of little avail if, in Bossarte, detonators (igniters) were connected to the interface module which could then be removed. In the present invention, the detonator connections can be made to the blast control unit and all installation work can be done

without affecting the capability of later connecting the blast key to the blast control unit. Conversely, the blast key of the claimed device can be physically removed from the blasting arrangement when required, thereby physically removing from the blasting arrangement the capability of generating significant voltage to arm the detonators, without need to disconnect the detonators. This facility is not available in Bossarte, whose safety provision is a safe-arm switch operated by a removable key 26. Because an energy source capable of arming the detonators remains connected to Bossarte's system, a defective safe-arm switch will impose significant danger, as does the fact that a key 26 inadvertently left in place might be easily overlooked. In the present invention, removal of the blast key physically removes from the blast control unit and thus from the blasting arrangement the blast energy generator 22, as will be appreciated from Applicant's Figure 2 and the description at Applicant's paragraph [0018]. Removal of this prominent unit, unlike Bossarte's key 26, is not likely to be overlooked. The objectives of the two inventions are different.

Claim 13 requires that the detonators are connected to the blast control unit which has the inherent limitation of not being capable of itself arming the detonators. The claim also requires that the blast key is removably connected to the blast control unit. Therefore, the blast energy generator is operable to produce a voltage for arming the detonators only when it is connected to the blast control unit.

The Bossarte control panel is not directly connected to the detonators as is the Applicant's blast control unit. The Bossarte interface module is connected to the detonators through a distribution panel. For at least the preceding reason, Bossarte is not capable of sustaining a rejection under 35 U.S.C. 102. The structure defined by claim 13 inherently provides the advantages of safety features which are not capable of being provided by the Bossarte arrangement. The features include the following:

(a) the removable nature of the Applicant's blast key whereas Bossarte's interface module is wired into the arrangement;

(b) the inability of the Applicant's blast control unit alone to arm the detonators;

(c) the safety of the Applicant's blasting arrangement as compared to that of Bossarte in that the Applicant's blast control unit cannot be enabled unless it is connected to the blast key; and

(d) as the Applicant's blast key has an on-board blast energy generator, the shock tolerance of the blast control unit is no longer a primary safety issue.

For at least the aforementioned reasons it is submitted that claim 13 is patentable over Bossarte.

The remaining claims are dependent on claim 13 and are directed to specific features. It is submitted that these claims are also allowable as they depend from an allowable claim.

In view of the foregoing, it is respectfully submitted that each of the pending claims is now in condition of allowance and such action is respectfully requested.

Respectfully submitted,

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